Answers to Test 1, Spring 2001

1. $\langle 3, -6, 4\rangle$
2. 3/2
3. 1
4. $\langle 2/7, -3/7, 6/7\rangle$
5. (a) Comments: Show $|\vec{v}(t)|$ is a constant, not $\vec{v}(t)$. Don't be afraid of the algebra. You should obtain $|\vec{v}(t)| = 3$.

   (b) 3
6. (a) $x = t$, $y = -t$, $z = 1 + 2t$

   (b) $(1/6, -1/6, 4/3)$
7. (a) $(-1, 4, -2)$

   (b) $\cos^{-1}(1/3)$
8. (i) (c), $(0, \pm 4, 0)$

   (ii) (d), $(2, 0, 0)$ or $(-2, 0, 0)$

   (iii) (e), $z = 16$